

A VIEW FROM SPACE

✦ **Grade Level: K-12**

✦ **Focus Area: Science, Writing, Observation Skills**

✦ **Time: 15-30 Minutes**

BACKGROUND INFORMATION

From satellites to landers, we have many incredible spacecraft that help us understand both our planet and others. Satellites can take images and measurements of Earth, collecting information that helps scientists understand how we are impacting the planet. They can also help us track the effects of natural disasters, and even better observe seasonal changes and patterns within our planet.

Other satellites provide important services, such as internet or GPS, which helps with everything from modern navigation to timekeeping. Thanks to technology in space, we have a unique view from above that lets us truly appreciate our planet.

ACTIVITY OBJECTIVES

- ✦ Imagine what it would be like to look down at Earth from above, then learn about the ways that satellites help us observe and understand our planet.
- ✦ Search for specific details in a photo of the Grand Canyon taken by a satellite.
- ✦ Write a paragraph brainstorming ways similar satellite photos could be helpful to life on Earth.

MATERIALS

- ✦ Lined paper (1)
- ✦ Pencil (1)

ACTIVITY DIRECTIONS

Introduction

1. Look at each photo of Earth and search for the details listed in the “Things to Find” section.
2. Then, answer the writing prompt with a short paragraph.

Things to Find

- ✦ This picture shows fires around the Grand Canyon. What areas are smoke vs. clouds?
- ✦ Can you spot the Colorado River?
- ✦ See the red marks? Those show locations for some of the fires. Can you spot smoke from a fire that isn't marked red?
- ✦ Can you spot the areas with more plant growth?
- ✦ Can you spot any hills or areas of higher elevation?

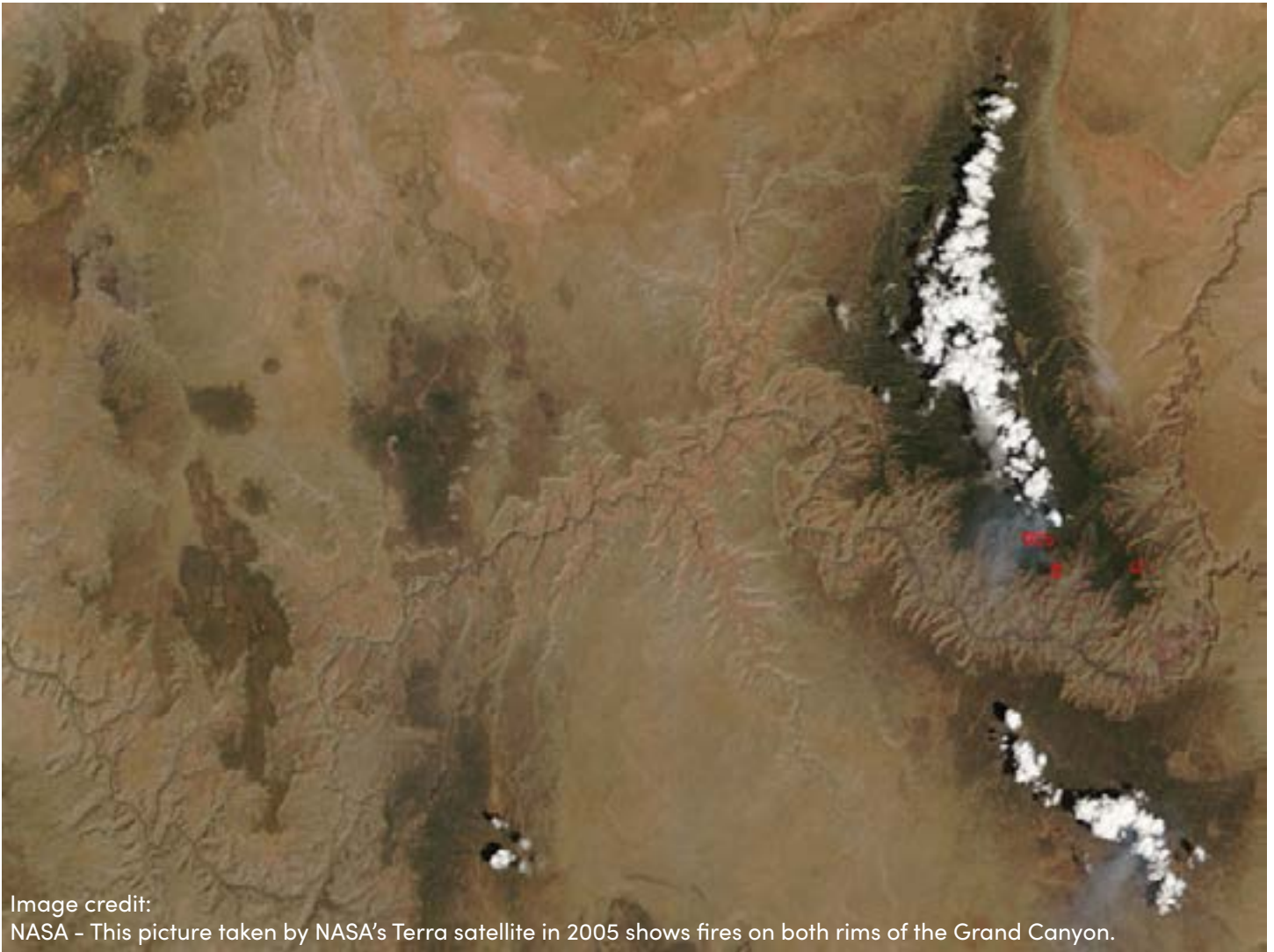


Image credit:

NASA - This picture taken by NASA's Terra satellite in 2005 shows fires on both rims of the Grand Canyon.

Writing Prompt

Satellites can help in many ways, including with natural disaster responses. In this case, the Terra satellite captured images of multiple fires around the Grand Canyon. Why would we want to watch fires from above like this? How can this be used to help people? Write a response brainstorming ways that satellite technology like this might help during a wildfire.

Research Questions/Extensions

- ✦ Satellites allow us to use things like GPS. How is GPS used beyond map applications when driving in a car? How different would life be without GPS?
- ✦ Some satellites are dedicated to Earth Observation. Why would we want to observe the Earth from above? What do you think scientists are trying to learn about Earth?
- ✦ Landers, like the Mars Viking Lander, are another incredible type of technology that land on other planets, take measurements of the landing area, and send that data back to Earth. Why do scientists want to study other planets?

REFERENCES

NASA. (July 13, 2005). Fires on both rims of the Grand Canyon. [Image] <https://earthobservatory.nasa.gov/images/15183/fires-on-both-rims-of-grand-canyon>